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Agrément Certificate

22/6189

Product Sheet 1

CENTECH ADVANCED POLY ACRYOL (APA) BALCONY AND ROOFING SYSTEM

CENTECH APA 20 ROOFING SYSTEM

This Agrément Certificate Product Sheet⁽¹⁾ relates to the Centech APA 20 Roofing System, a moisture triggered poly acryol liquid applied waterproofing, for use on new and existing flat roofs, including terraces, with limited or pedestrian access.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Weathertightness — the system will resist the passage of moisture into the interior of a building (see section 6).

Properties in relation to fire — the system may enable a roof to be unrestricted under the national Building Regulations (see section 7).

Adhesion — the adhesion of the system is sufficient to resist the effects of any likely wind suction and the effects of thermal or other minor movement likely to occur in practice (see section 8).

Resistance to mechanical damage — the system will accept, without damage, the limited foot traffic and loads associated with installation and maintenance and minor structural movements occurring in service (see section 9).

Slip resistance — the system, when wet or dry, has a satisfactory co-efficient of friction to enable its use in pedestrian areas (see section 10).

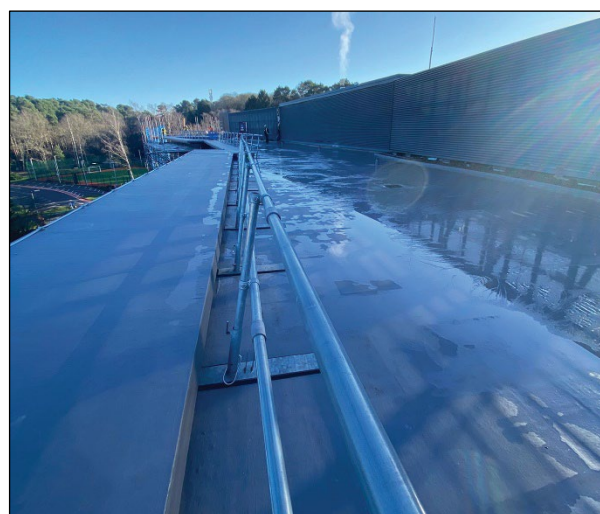
Durability — under normal service conditions, the unprotected system will provide a durable waterproof covering with a service life of at least 20 years (see section 12).

The BBA has awarded this Certificate to the company named above for the system described herein. This system has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 29 July 2022

Hardy Giesler
Chief Executive Officer



The BBA is a UKAS accredited certification body – Number 113.

*The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk
Readers MUST check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.*

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

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Regulations

In the opinion of the BBA, the Centech APA 20 Roofing System, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	B4(2)	External fire spread
Comment:		On suitable substructures, the system may enable a roof to be unrestricted under this Requirement. See section 7 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		The system will enable a roof to satisfy this Requirement. See section 6 of this Certificate.
Regulation:	7(1)	Materials and workmanship
Comment:		The system is acceptable. See section 12 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Durability, workmanship and fitness of materials
Comment:		The system can satisfy the requirements of this Regulation. See sections 11.1 and 12 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	2.8	Spread from neighbouring buildings
Comment:		When applied to a suitable substructure the system may enable a roof to be unrestricted under clause 2.8.1 ⁽¹⁾⁽²⁾ of this Standard. See section 7 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The use of the system will enable a roof to satisfy the requirements of this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ and 3.10.7 ⁽¹⁾⁽²⁾ . See section 6 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The system can contribute to meeting the relevant requirements of Regulation 9, Standards 1 to 6 and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.
Regulation:	12	Building standards applicable to conversions
Comment:		Comments in relation to the system under Regulation 9, Standards 1 to 6 also apply to this Regulation, with reference to clause 0.12.1 ⁽¹⁾⁽²⁾ and Schedule 6 ⁽¹⁾⁽²⁾ .

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).



The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation:	23(1)(a)(i)	Fitness of materials and workmanship
Comment:	(iii)(b)(i)	The system is acceptable. See section 12 and the <i>Installation</i> part of this Certificate.
Regulation:	28(b)	Resistance to moisture and weather
Comment:		The system will enable a roof to satisfy the requirements of this Regulation. See section 6 of this Certificate.

Regulation:	36(b)	External fire spread
Comment:	On suitable substructures, the use of the system may enable a roof to be unrestricted by this Regulation. See section 7 of this Certificate.	

Construction (Design and Management) Regulations 2015 Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See sections: 3 *Delivery and site handling* (3.2 and 3.3) and 10 *Slip Resistance* of this Certificate.

Additional Information

NHBC Standards 2022

In the opinion of the BBA, the Centech APA 20 Roofing System, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 7.1, *Flat roofs, terraces and balconies*.

The NHBC Standards do not cover the use of the system in the refurbishment of existing roofs.

Technical Specification

1 Description

1.1 The Centech APA 20 Roofing System comprises:

- Centech APA Part A — a moisture triggered poly acryol, available in dark grey and mid grey
- Centech APA Part B : Summer — a catalyst for Part A for warm weather use
- Centech APA Part B : Winter — a catalyst for Part A for cold weather use
- Centech APA Part B: Intermediate — a catalyst for Part A for mild weather use
- Centech GFM 225 gsm — a glass reinforcement fleece for the system
- Epoxy Damp Tolerant Concrete Primer — a two-part primer for use in preparing substrates prior to system application
- Epoxy Metal Primer — a two-part primer for adhering Centech APA to metal substrates and for spot priming of areas of corroded metal after preparation
- Single Pack Metal Primer — a one-part primer for adhering Centech APA to metal substrates and for spot priming of areas of corroded metal after preparation
- Centech PVC/Reactivation Primer — a one-part primer for priming previously applied Centech APA.

1.2 Quartz sand (0.7 – 1.2 mm) is used in areas of pedestrian access to provide a slip resistant surface. The Certificate holder should be consulted on the grade of quartz sand to be used for a particular application.

2 Manufacture

2.1 The liquid components of the system are manufactured by a batch-blending process.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

3 Delivery and site handling

3.1 The system components are delivered to site in packaging bearing the Certificate holder's details, product name, hazard labelling, batch number and the BBA logo incorporating the number of this Certificate.

3.2 The system components are delivered to site as shown in Table 1.

Table 1 Packaging

Component/item	Package type	Size
Centech APA Part A	metal tins	5 kg (3.6 litre) and 17.5 kg (12.3 litre)
Centech APA Part B : Summer	metal tins	0.56 kg (0.56 litre) and 1.9 kg (1.9 litre)
Centech APA Part B : Winter	metal tins	0.69 kg (0.69 litre) and 2.3 kg (2.3 litre)
Centech APA Part B: Intermediate	metal tins	0.62 kg (0.62 litre) and 2.1 kg (2.1 litre)
Epoxy Damp Tolerant Concrete Primer (Part A)	plastic tubs	2.5 litre in a 5 litre tub
Epoxy Damp Tolerant Concrete Primer (Part B)	metal tins	1.5 litre in a 2.5 litre tin
Epoxy Metal Primer (Part A)	metal tins	3 litre in a 5 litre tin
Epoxy Metal Primer (Part B)	metal tins	1 litre
Single Pack Metal Primer	metal tins	5 litre tin
Centech PVC/Reactivation Primer	metal tins	5 litre tin
Centech GFM 225 gsm	rolls in boxes	127 m x 0.95 m or three/singly 127 m x 0.31 m rolls

3.3 The Certificate holder has taken the responsibility of classifying and labelling the system components under *the CLP Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the Centech APA 20 Roofing System.

Design Considerations

4 General

4.1 The Centech APA 20 Roofing System is satisfactory as a roof waterproofing for use on new or existing flat roofs, including terraces, with limited or pedestrian access.

4.2 The system is suitable for use on the following substrates:

- concrete
- reinforced bitumen membranes (including sanded and mineral surfaced bituminous membranes).
- steel.

4.3 Decks to which the system is to be applied must comply with the relevant requirements of BS 6229 : 2018 and, where appropriate, *NHBC Standards 2022*, Chapter 7.1.

4.4 For the purpose of this Certificate, limited access is defined as roofs subject only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters, etc. Pedestrian access roofs are defined for the purposes of this Certificate as those not subject to vehicular traffic.

4.5 Flat roofs are defined for the purpose of this Certificate as those having a minimum finished fall of 1:80.

4.6 Pitched roofs are defined for the purpose of this Certificate as those having falls in excess of 1:6.

4.7 Pedestrian access roofs are defined for the purposes of this Certificate as those not subjected to vehicular traffic.

4.8 For design purposes, twice the minimum finished fall should be assumed, unless a detailed analysis of the roof is available, including overall and local deflection, direction of falls, etc.

4.9 Terraces, to which the system is to be applied, must be designed in accordance with BS 8579 : 2020.

4.10 Dead loads, wind loads and imposed loads must be calculated by a suitably experienced and competent individual in accordance with BS EN 1991-1-1 : 2002, BS EN 1991-1-3 : 2003 and BS EN 1991-1-4 : 2005, and their UK National Annexes.

4.11 Insulation materials to be used in conjunction with reinforced bitumen membranes, to which the system is applied, must be in accordance with the Certificate holder's instructions and must be either:

- as described in the relevant clauses of BS 6229 : 2018, or
- the subject of a current BBA Certificate and used in accordance with the scope of that Certificate.

4.12 The NHBC requires that the roof waterproofing membranes, once installed, are inspected in accordance with of *NHBC Standards 2022*, Chapter 7.1, Clause 7.1.12, and undergo an appropriate integrity test, where required. Any damage to the membrane is repaired in accordance with section 16 of this Certificate and reinspected.

5 Practicability of installation

The system should only be installed by specialist roofing contractors who have been trained and approved by the Certificate holder.

6 Weathertightness



The system will adequately resist the passage of moisture to the interior of a building and so enable a structure to satisfy the relevant requirements of the national Building Regulations.

7 Properties in relation to fire



7.1 When classified to BS EN 13501-5 : 2016, a system comprising a 12.5 mm thick fibre cement board, primed with Epoxy Damp Tolerant Concrete Primer at a thickness of 0.65 mm, one coat of Centech APA at a thickness of 1 mm, a layer of Centech GFM 225 gsm and one coat of Centech APA at a thickness of 1 mm achieved $B_{ROOF}(t_4)^{(1)}$ for slopes below 10° and so, is unrestricted in terms of proximity to a boundary by the documents supporting the national Building Regulations.

(1) Fire test and classification reports, reference Q100993-1000 and Q100993-1001 respectively, conducted by BRE Global, Report available from the Certificate holder.

7.2 When used in conjunction with one of the inorganic coverings listed in the Annex of Commission Decision 2000/553/EC, the system can also be considered to be unrestricted with respect to the proximity to a boundary under the national Building Regulations.

7.3 The classification and permissible areas of use of other specifications should be confirmed by reference to the requirements of the documents supporting the national Building Regulations.

8 Adhesion

The adhesion of the system to the substrates and finishes listed in clause 4.2 is sufficient to resist the effects of any wind suction, elevated temperatures, thermal shock or minor movement likely to occur in practice.

9 Resistance to mechanical damage

9.1 The system can accept, without damage, the limited foot traffic and light concentrated loads associated with installation, maintenance. However, care must be taken to avoid puncture by sharp objects or concentrated loads.

9.2 When incorporating the quartz sand finish the system can accept, without damage, pedestrian traffic.

9.3 The system is capable of accepting minor structural movement while remaining weathertight.

10 Slip resistance

The system, when installed with the addition of quartz sand in the top coat, has a satisfactory slip resistance in dry and wet conditions to allow safe passage of pedestrian traffic.

11 Maintenance



11.1 The system must be the subject of six-monthly inspections and maintenance in accordance with the recommendations of BS 6229 : 2018, Chapter 7, and the Certificate holder's own maintenance requirements, where relevant, to ensure continued satisfactory performance.

11.2 Any damage should be repaired in accordance with section 16 of this Certificate and the Certificate holder's instructions.

12 Durability



Under normal service conditions, the system will have a service life of at least 20 years.

Installation

13 General

13.1 Installation of the Centech APA 20 Roofing System must be in accordance with the relevant clauses of BS 8000-0 : 2014, BS 8000-4 : 1989, Liquid Roofing and Waterproofing Association (LRWA) Note 7 – *Specifier Guidance for Flat Roof Falls*, the Certificate holder's instructions and this Certificate.

13.2 All components must be applied when the air and substrate temperatures are greater than 3°C. Special precautions may be necessary when temperatures exceed 35°C, as shown in the Certificate holder's Technical Data sheets.

13.3 Detailing (eg upstands) is carried out in accordance with the Certificate holder's instructions.

14 Site and surface preparation

14.1 Substrates on which the system is to be applied must be properly prepared in accordance with the Certificate holder's instructions.

14.2 Adhesion to substrates will depend on the condition and cleanness of the substrate. Substrates must be visibly dry, sound and free from loose materials or contamination (eg moss or algae).

14.3 High pressure water-jetting may be used to remove loose or flaking materials, but the substrate must be visibly dry before application of the system.

14.4 Damaged areas of the substrate (eg broken fibre-cement sheets, blistered bitumen or roofing membranes) must be removed, replaced or repaired. Substrate defects (eg shallow-bottomed cracks and indentations) are filled using

Centech APA. Large indentations may be repaired with a suitable repair mortar and primed accordingly. The Certificate holder can advise on suitable materials for a particular application.

14.5 Deck surfaces must be free from sharp projections, such as protruding fixing bolts or concrete nibs.

14.6 Gutters and outlets must be checked to ensure that they are, and remain, clear of all debris.

14.7 The substrate is primed with the appropriate primer, in accordance with the Certificate holder's instructions, at the coverage rate given in Table 3.

Table 3 Primer application rates

Primer	Rate of coverage (m ² per litre)
Epoxy Damp Tolerant Concrete Primer	3.3 – 5
Epoxy Metal Primer	6.7
Centech PVC/Reactivation Primer	10

14.8 All points of potential weakness such as splits, cracks, joints and crazed surfaces must be reinforced with additional Centech GFM 225 gsm prior to application of the system.

14.9 Centech GFM 225 gsm must first be embedded in an initial application of Centech APA applied at a rate of 1.0 litre per m² (dependent upon the roughness of the substrate).

15 Procedure

15.1 Application can be by brush, roller or spray. Brush application is normally used only on intricate details for embedding the Centech GFM 225 gsm into the Centech APA.

15.2 Prior to application, checks should be made to ensure the substrate is dry (ie free from rainwater, surface condensation and frost) and that the prevailing weather and site conditions are acceptable. The following imitations apply:

- application must not take place when the relative humidity is in excess of 95%, or in fog
- the temperature/humidity must be such that there is no risk of surface condensation occurring before or during application
- air and substrate temperatures must be in excess of 3°C (and not on a falling scale)
- the system components must be conditioned at a temperature of 10°C or greater, for use in airless spray applications
- the primer, where used, must be cured
- the wind speed must be such that it does not interfere with the application or cause overspray. No attempt to spray should be made if the wind speed exceeds 6.7 m·s⁻¹ (15 mph), unless precautions such as the use of wind barriers are taken.

15.3 Work should only commence on an area if it can be applied to the full thickness before weather changes occur.

15.4 The substrate is primed, where required, and areas requiring extra Centech GFM 225 gsm, eg special terminations, are treated as described in sections 14.1 and 14.9. The substrate, once dry, will be ready for the main application of the system.

15.5 The contents of Part B are poured into the Part A container and mixed with drill and paddle until homogenous.

15.6 The system is applied at the coverage rate given in Table 4. The Centech GFM 225 gsm is embedded in the first coat while the membrane is still wet. Once the first coat is partially cured, the second coat is applied. The finished dry thickness should be not less than 1.8 mm. If required, quartz sand is broadcast into the into the top resin layer while still wet to give a slip resistant surface.

Table 4 Coverage rates (litres per m²)

Layer	Substrate texture			
	Smooth	Intermediate	Rough	Very rough
First Coat	1.00	1.25	1.50	1.6
Second Coat	1.00	1.00	1.00	1.00

15.7 Random tests are carried out on the finished coating surface by cutting out small areas to measure finished cured thickness. Test areas must be repaired after the sample is taken (see section 16).

16 Repair

Should minor damage occur it can be effectively repaired by cleaning back to the unweathered material and recoating the damaged area with the membrane at the application rates stated in section 15.

Technical Investigations

17 Tests

Tests were conducted on the system and the results assessed to determine:

- infrared spectrum
- water vapour transmission
- resistance to water penetration
- tensile strength and control
- tensile bond strength
- static indentation at 23 and 80°C
- dynamic indentation at -10 and 23°C
- fatigue cycling
- pendulum slip resistance
- UV ageing for 20 year equivalent, followed by tensile strength and dynamic indentation
- heat ageing for 20 year equivalent, followed by tensile strength and fatigue cycling
- water exposure for 20 year equivalent, followed by tensile bond strength and static indentation
- low temperature cure, followed by tensile bond strength and dynamic indentation
- high temperature cure, followed by tensile bond strength and dynamic indentation.

18 Investigations

18.1 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

18.2 An assessment of the Certificate holder's installers training procedures was carried out.

18.3 Data on fire performance were evaluated.

Bibliography

BS 6229 : 2018 *Flat roofs with continuously supported flexible waterproof coverings — Code of practice*

BS 8000-0 : 2014 *Workmanship on construction sites — Introduction and general principles*

BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*

BS 8579 : 2020 *Guide to the design of balconies and terraces*

BS EN 1991-1-1 : 2002 Eurocode 1 : *Actions on structures — General actions— Densities, self-weight, imposed loads for buildings*

NA to BS EN 1991-1-1 : 2002 UK National Annex to Eurocode 1 : *Actions on structures — General actions— Densities, self-weight, imposed loads for buildings*

BS EN 1991-1-3 : 2003 + A1 : 2015 Eurocode 1 : *Actions on structures — General actions — Snow loads*

NA to BS EN 1991-1-3 : 2003 + A1 : 2015 UK National Annex to Eurocode 1 : *Actions on structures — General actions — Snow loads*

BS EN 1991-1-4 : 2005 + A1 : 2010 Eurocode 1 : *Actions on structures — General actions — Wind actions*

NA to BS EN 1991-1-4 : 2005 + A1 : 2010 UK National Annex to Eurocode 1 : *Actions on structures — General actions — Wind actions*

BS EN 13501-5 : 2016 *Fire classification of construction products and building elements — Classification using data from external fire exposure to roof tests*

19 Conditions

19.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

19.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

19.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

19.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

19.5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

19.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.